Material on Rain Forest for Social Studies

From <http://www.rainforest-alliance.org/>

Table of Contents

1. 1 minute time lapse video on loss of rainforest at one location from satellite
2. Article - What is a Rain Forest? – defines and discusses loss – 1 page
3. Frequently Asked Questions – fast fact – 2 pages
4. How much rain forest is lost each day? – Question answered in a science column – 1 page
5. Video exploring rainforest in Peru and Gabon? – to watch while work?
6. Products of rain forest –
	1. FUNNY VIDEO about man imagining saving the forest leading to the idea of “Follow the Frog” – buying products certified by rain forest alliance
	2. List of products with linked info about how buying certified helps real people
7. TIPS - How to Green Your Classroom
8. TIPS - How to Green Your Home

 Video showing loss of rainforest <http://www.rainforest-alliance.org/multimedia/fight-deforestation-fight-climate-change>

## Aerial View of Amazon RainforestWhat is a Tropical Forest?

"Tropical forests" encompass the idyllic rainforest, the remote cloud forest, and the lesser-known but equally endangered dry forest, pine savanna and much, much more. They are not one ecosystem, but millions of unique ecosystems. Tropical forests are both the fearsome Jungle of our fantasy and the fertile Eden of our myth. They are the central nervous system of our planet -- a hotbed of evolution, life and diversity.

Tropical rainforests are home to over half the world's species, all squeezed into a narrow strip of equatorial land. They are also home to millions of human beings that have been a part of forest ecosystem for thousands of years. Together, tropical forests form a gallery of the most beautiful, awe-inspiring places and creatures on Earth.

Since the beginning of history, humans have relied on tropical forests. The "jungle" provided our ancient ancestors with a steady supply of wood, plants and animals, and it gave us many of our first fruits, fibers, grains, medicines, cloths, resins, pigments and other materials. As the millennia passed and many human communities moved farther and farther away from the Tropics, our ties to the forest did not weaken. Major trade routes, and even empires, developed to control the flow of the tropical forest's treasures.

Today, most of the industrialized world senses little connection to the tropical forest, living in large, busy cities far away from these fertile ecological powerhouses. We forget that the forest regularly saves our global food supply by offering new, disease-resistant crops. We forget about the hundreds of billions of dollars worth of trade in tropical timber, non-timber forest products and forest-derived drugs. We forget about things that are ultimately beyond value: the livelihoods of millions of forest peoples, a stable and livable climate for us all, the existence of most of our fellow species, and simple things we take for granted, like regular rain and clean air.

In tropical nations, many developing and debt-ridden, the forest is cleared in the hope of securing an economic future. Huge industrial interests, including timber, agriculture and mining, see an "endless," profitable supply of cheap resources just waiting to be taken. Meanwhile, family farmers and loggers feel they have no option but to deforest in order to feed their families. However, innumerable studies and recent history show that little security can be found in tropical deforestation.

Thus far, our human family has erased half of our original endowment of tropical forests. Our world is now facing the greatest extinction crisis since the fall of the dinosaurs 65 million years ago. The future of over 50 percent of Earth's plants and animals -- and hundreds of human cultures -- will be determined within the next few decades. Since our lives are so dependent on the forest's bounty, our future is at stake as well.

##### **Frequently Asked Questions**

##### **How many plant and animal species can be found in rainforests?**

More than half of the world's plant and animal [species](http://www.rainforest-alliance.org/kids/species-profiles) live in rainforests and some animals can only be found in rainforests, which means that if rainforests are destroyed, these incredible animals will lose their homes.

##### **How do plants and animals interact with each other in rainforests?**

In every environment plants and animals depend on each other for food and shelter, protection, reproduction and community. The survival of individual species depends on the health of other species and the environment as a whole. For example, many flowers are designed to attract a certain species of insect, bird or bat. The complex relationships within an ecosystem can be thrown out of balance when one of the components is threatened or one of the species becomes extinct.

##### **Do some animals live in plants?**

Plants are an important part of rainforests, providing animals and people with food, shade and shelter. Some animals, like [tree frogs](http://www.rainforest-alliance.org/kids/species-profiles/tree-frog), live inside a type of plant called a [bromeliad](http://www.rainforest-alliance.org/kids/species-profiles/bromeliad). Many bromeliads have stiff, overlapping leaves that, like buckets, hold rainfall inside them. Bromeliads are like small ecosystems where animals such as tree frogs, snails, flatworms, tiny crabs and salamanders can spend their entire lives.

##### **Do birds migrate to rainforests?**

Many birds that spend the summer in North American back yards migrate to tropical rainforests in the winter. The Baltimore oriole travels from the eastern coast of the United States, more than 3,000 miles to winter in the warm forests of Central and South America, where they often find refuge in shade-grown coffee farms. Not only do the trees on these farms provide habitat for the birds, they protect the coffee crop from the harsh rays of the sun. The birds do their part by eating insects that attack the coffee plants

##### **Are there any unknown plants in rainforests?**

Scientists are continuing to discover new species of plants and animals. Many rainforest plants provide us with food and medicine. One quarter of the Western medicines that we use today are derived from plants, yet less than one percent of these tropical trees and plants have been screened by scientists for pharmaceutical properties. Tropical forests have given us chemicals to treat or cure inflammation, rheumatism, diabetes, muscle tension, surgical complications, malaria, heart conditions, skin diseases, arthritis, glaucoma and hundreds of other maladies.

##### **How do rainforests affect the Earth's climate?**

Rainforests are one of the world's primary carbon reservoirs. By absorbing carbon dioxide from the air, storing the carbon and giving us oxygen to breathe, tropical forests act as the Earth's thermostat, regulating temperatures and weather patterns. The loss of our forests contributes to between [12 and 15 percent](http://www.nature.com/ngeo/journal/v2/n11/abs/ngeo671.html) of all greenhouse gas emissions each year -- to put that in perspective, trains, planes and automobiles combined contribute to about [13.5 percent](http://www.wri.org/) of all greenhouse gas emissions.

##### **What products do we use in our daily lives that originate in rainforests?**

Rainforests provide us with valuable resources such as [timber](http://www.rainforest-alliance.org/work/forestry), wood pulp for paper, firewood, medicines, fibers, latexes, resins and fruits. Foods such as [chocolate](http://www.rainforest-alliance.org/agriculture/crops/cocoa), [coffee](http://www.rainforest-alliance.org/agriculture/crops/coffee) and [bananas](http://www.rainforest-alliance.org/work/agriculture/bananas) all come from rainforests.

##### **What are some leading causes of rainforest destruction?**

Around the world, people are clearing land to grow crops. While people need to grow food, in many countries, there are no laws to prevent people from entering a forest, cutting it down, burning the dry vegetation, and planting seeds. Because most of a rainforest's nutrients are found in its diverse flora, the soils that support so much biodiversity are actually quite thin and poor. The farmers can grow crops in the ashes of burned forests for a few years, but eventually, the nutrient-poor soils give out, and the colonists must move farther into the forest and start over. The abandoned lands are often used by ranchers to graze livestock. On average, six acres of pastureland in the tropics are needed to feed just one cow. People who need wood for fuel also cause deforestation. When timber companies cut down valuable hardwoods in a forest in an irresponsible way, the process usually destroys all surrounding vegetation and jeopardizes the wildlife that depended on that lost vegetation. Illegal logging is also a problem. Development projects like dams, new settlements, highways and large-scale mining and petroleum projects are also leading causes of deforestation.

##### **What are some solutions to rainforest destruction?**

The Rainforest Alliance helps companies that depend on forest resources run their businesses in ways that are safer for the forests and better for the workers. We work to make sure farmers and foresters are following good practices through on-site investigation and [certification](http://www.rainforest-alliance.org/certification-verification); promoting government policies that support the good work these companies are doing; and teaching industry and consumers about how we all can help conserve natural resources. That way we can still have our chocolate and keep the forests intact too!

##### **How can kids help protect rainforests?**

If deforestation continues at the current rate, there could be a time when rainforests around the world disappear. It is up to all of us to act responsibly. You can help protect ecosystems and the people and wildlife that depend on them by holding an [Adopt-A-Rainforest](http://www.rainforest-alliance.org/adopt) fundraiser and buying [responsibly produced foods, wood and paper products](http://www.rainforest-alliance.org/green-living/marketplace). Most importantly, keep [learning](http://www.rainforest-alliance.org/curriculum) about rainforests and teach your friends and family how important they are.

**Dear EarthTalk: Do you have current facts and figures about how much rainforest is being destroyed each day around the world, and for what purpose(s)?**—Teri, via e-mail

Pinning down exact numbers is nearly impossible, but most experts agree that we are losing upwards of 80,000 acres of tropical rainforest daily, and significantly degrading another 80,000 acres every day on top of that. Along with this loss and degradation, we are losing some 135 plant, animal and insect species every day—or some 50,000 species a year—as the forests fall.

According to researcher and writer Rhett Butler, who runs the critically acclaimed website, Mongabay.com, tropical rainforests are incredibly rich ecosystems that play a key role in the basic functioning of the planet. They help maintain the climate by regulating atmospheric gases and stabilizing rainfall, and provide many other important ecological functions.

Rainforests are also home to some 50 percent of the world’s species, Butler reports, “making them an extensive library of biological and genetic resources.” Environmentalists also point out that a quarter of our modern pharmaceuticals are derived from rainforest ingredients, but less than one percent of the trees and plants in the tropics have been tested for curative properties. Sadly, then, we don’t really know the true value of what we’re losing as we slash, burn, and plant over what was once a treasure trove of biodiversity.

According to the United Nations’ Food and Agriculture Organization (FAO), overall tropical deforestation rates this decade are 8.5 percent higher than during the 1990s. While this figure pertains to all forests in the world’s tropics, researchers believe the loss of primary tropical rainforest—the wildest and most diverse swaths—has increased by as much as 25 percent since the 1990s.

Despite increased public awareness of the importance of tropical rainforests, deforestation rates are actually on the rise, mostly due to activities such as commercial logging, agriculture, cattle ranching, dam-building and mining, but also due to subsistence agriculture and collection of fuel wood. Indeed, as long as commercial interests are allowed access to these economically depressed areas of the world, and as long as populations of poor rural people continue to expand, tropical rainforests will continue to fall.

Some scientists see light at the end of the tunnel. Joseph Wright of the Panama-based Smithsonian Tropical Research Institute says the tropics now have more protected land than in recent history, and believes that large areas of tropical forest will remain intact through 2030 and beyond: “We believe that the area covered by tropical forest will never fall to the exceedingly low levels that are often predicted and that extinction will threaten a smaller proportion of tropical forest species than previously predicted.”

Only time will tell whether Wright’s optimistic predictions ring true, or whether a more doomsday scenario will play out. To stay informed and be part of the solution, stay tuned to the websites of Rainforest Action Network, Rainforest Alliance, the Rainforest Site and, of course, Mongabay.com.

**CONTACTS**: Mongabay, [www.mongabay.com](http://www.mongabay.com/); Rainforest Alliance,[www.rainforestalliance.org](http://www.rainforestalliance.org/%22%20%5Ct%20%22_blank); Rainforest Action Network, [www.ran.org](http://www.ran.org/); Rainforest Site, [www.rainforestsite.com](http://www.rainforestsite.com/); FAO, [www.fao.org](http://www.fao.org/).

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Video Exploring Tropical Rain forest of Peru and Gabon

<http://www.rainforest-alliance.org/kids/facts>

### **Funny Follow the Frog Video**

<http://www.rainforest-alliance.org/multimedia/followthefrog2012>

### **Learn about some of the crops we certify...**

<http://www.rainforest-alliance.org/shopthefrog>



#### [Bananas](http://www.rainforest-alliance.org/work/agriculture/bananas)



#### [Cocoa](http://www.rainforest-alliance.org/work/agriculture/cocoa)



#### [Coffee](http://www.rainforest-alliance.org/work/agriculture/coffee)



#### [Ferns & Cut Flowers](http://www.rainforest-alliance.org/work/agriculture/ferns-flowers)



#### [Palm Oil](http://www.rainforest-alliance.org/work/agriculture/palm-oil)



#### [Tea](http://www.rainforest-alliance.org/work/agriculture/tea)

## Green Your Classroom

Why not bring the message closer to home by turning your classroom or school into the ultimate sustainable spot? Here are few tips and tricks to get you started:

### **For an eco-friendly facility...**

* Try to keep the temperature in your classroom reasonable to save energy. Let students know the temperature in advance, so they can dress accordingly.
* If you need to purchase new computers, TVs or other appliances, consider [Energy Star](http://www.energystar.gov/)-rated options.
* Keep a few plants on your classroom windowsills to improve air quality.
* Encourage recycling by purchasing separate bins for bottles, cans and paper waste.

### **For a greener lunchtime...**

* Suggest that students bring their lunches in reusable containers and sip from reusable water bottles.
* Ask your school to source sustainable food for cafeteria lunch, including locally grown or[Rainforest Alliance Certified](http://www.rainforest-alliance.org/certification.cfm?id=main)™ produce.
* If your school has a garden, consider placing a compost bin for organic material in the cafeteria and creating fertilizer from lunchtime waste.

### **To maximize technology...**

* Put classroom computers in sleep mode, rather than using screensavers when they are not in use. You can reduce energy use by 60 to 70 percent.
* Plug classroom electronics into a power strip and turn the power strip off at the end of each day. By doing so, you can reduce energy use by up to 40 percent.
* Make your syllabi available online, rather than printing paper copies.
* Allow students to submit papers and exams electronically.

### **To minimize paper waste...**

* Print handouts, instructions and exams on double-sided paper and make your margins smaller. Encourage students to do the same.
* Use recycled or [Forest Stewardship Council](http://www.fsc.org/) / Rainforest Alliance Certified paper.
* Have a designated spot for recycling paper and scrap paper in your classroom.
* When possible, consider using the same edition of a textbook so that students can buy their books used. The difference between two textbook editions often is negligible.

Nine Tips to Green Your Home

Sustainability starts at home. When you choose goods and services for your family, make sure they are contributing to the well-being of communities and fostering the long-term health of the planet. Here are a few ideas:

* **Buy foods grown on Rainforest Alliance Certified™ farms** [Choose](http://www.rainforest-alliance.org/green-living/shopthefrog) coffee, tea, cocoa, chocolate, bananas, orange juice, guava, pineapple, passion fruit, plantains, macadamia nuts and flowers that come from healthy farms where rainforest is conserved and workers receive fair treatment. [Visit](http://www.rainforest-alliance.org/multimedia/smarthouse) the Rainforest Alliance's SmartHouse to see how easy it is to integrate sustainable products into your everyday life. [Find out where to buy Rainforest Alliance Certified products near you »](http://www.rainforest-alliance.org/green-living/shopthefrog)
* **Purchase Forest Stewardship Council (FSC)/Rainforest Alliance Certified™ wood products** Do your part to conserve forests around the world by buying wood and wood products that are responsibly harvested and processed. See a [complete list](http://www.rainforest-alliance.org/forestry/sourcing/products-companies) of FSC/Rainforest Alliance Certified wood products.
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